AYDIN DISPLAYS

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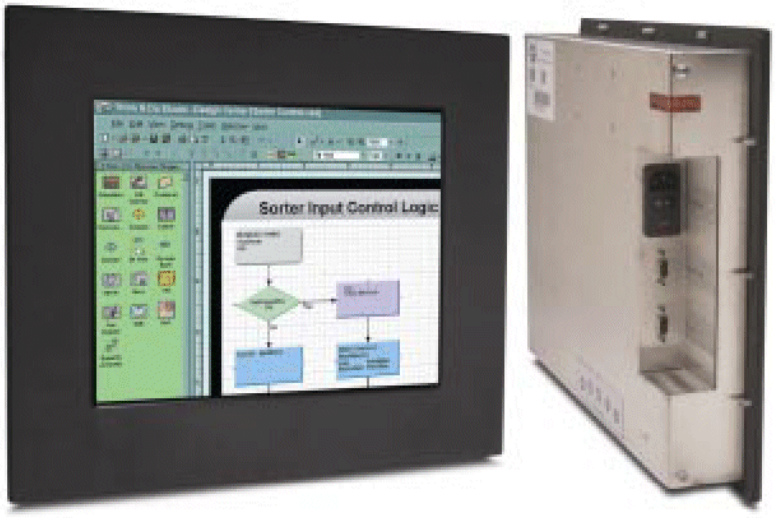
CAMBRIDGE
USERS MANUAL

CFP84 Family

Panel Mount
Rack Mount



LCD Monitor User Guide

150-CFP-084(-)

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1 Display Setup

Section

Product Safety Precautions

Safety Precautions

CAUTION: SHUT OFF YOUR TOUCH SCREEN BEFORE CLEANING!!

IF YOUR DISPLAY HAS A TOUCH SCREEN PANEL, THE SCREEN WILL BE ACTUATED BY CLEANING. PRESSING ON THE SCREEN WHILE CLEANING WILL BE SEEN AS A TOUCH TO THE SYSTEM WHICH COULD CREATE A POTENTIALLY DANGEROUS CONDITION!

- Do not attempt to service this display yourself. The rear chassis has a seal so that non-qualified personnel will not expose themselves to dangerous voltages or other risks.
- To protect from electrical shock, unplug the display power supply from the wall before moving.
- Do not use this display near water.
- Do not place any heavy objects on the power cords. Damage may cause electrical shock.
- Unplug the power supply from the wall or unit if one of the following conditions exists:
  - Power cord or plug is damaged or frayed.
  - Liquid is spilled into the display or the display is exposed to rain or water.
  - The display does not operate normally when the operating instructions are followed.
  - The display has been dropped or the enclosure has been damaged.
  - The display exhibits a distinct change in performance, indicating a need for service.
- Ensure that sufficient space is available around the display to provide air circulation for cooling.
- Ensure that the ambient air temperature will not exceed the specified maximum temperature.
- Do not expose the display to direct sunlight or heat.

Included Parts

Open shipping container and lay all components on a flat clean surface.
Your LCD monitor package will consist of the primary components listed below:

- LCD Monitor
- 6 ft Video Cable
- 6 ft AC Power Cord
- 6 ft RS-232 Touch Interface Cable (touch screen units only)
- 6 ft USB Touch Interface Cable (touch screen units only)
- Suitable Mounting Hardware (for use with Panel Mount or Rack Mount)
- Documentation and Driver CD ROM
- Users Manual

Connecting Your Display

Before progressing further, adjust your PC Video to VGA resolution (640 x 480) and 60Hz vertical refresh rate.

1. Connect all cables to the computer first. This includes the VGA cable, and if the unit has a touch screen, the RS-232 serial or the USB touch screen connection.

2. After connecting the cables between the LCD monitor and the computer, connect the supplied AC Power Cord to a suitable power source.

3. The LCD will immediately power up.

4. If your computer is off, turn on your computer.

5. Your display should now operate as a normal computer display – displaying the computers BIOS screens and booting into Windows or other operating system.

NOTE: If for any reason the display goes blank and/or displays an “Out of Range” or “No Input Signal” message on the screen, your computer or video source may be putting out a signal that is incompatible with the LCD monitor. If this happens, you will need to adjust the computer to output a compatible video signal.

Below are the most common reasons a display may not operate correctly:

1. The resolution is too high or low for the LCD or wrong sync signal configuration is provided.
2. The refresh rate is set too high. Refresh on an LCD is different than a CRT. Set the refresh to 60Hz. CRT’s need a high refresh rate to avoid flicker. The refresh rate has no impact on an LCD.
3. The power source is incorrect, or there is no power. Check if the rear LED is ON or blinking. If the LED is not lit, check to be sure there is power to the unit.
4. The unit is malfunctioning. If you believe this to be true, disconnect the video cable from the rear of the LCD and connect to a known good display. If an alternate display operates correctly, and the video is in a compatible range then contact Aydin Displays, Inc. technical support.

2 Getting Started

Section

Display Features

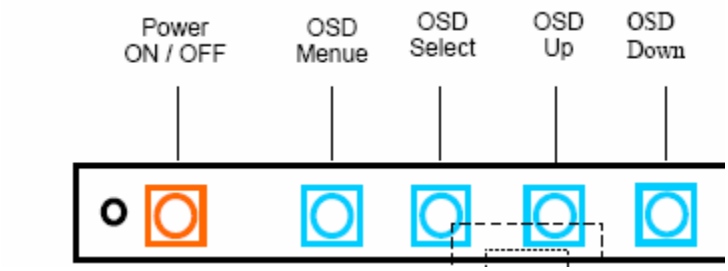
- The LCD is capable of displaying 262K colors in a continuous spectrum.
- The high contrast LCD enhances the image with no geometric distortion.
- The LCD directly accepts an Analog 3, 4 or 5 Wire RGB with sync input.
- The LCD is auto synchronous – adjusting the display to the appropriate VGA input.
- The LCD is supplied with an Anti-Glare Touch Screen or an Anti-Glare impact window on non touch screen models.

Adjusting the Display

The LCD display has an embedded microprocessor in the converter card which is the electronics that drives the LCD. In most cases the unit will require very little, if any, user intervention to operate correctly - that is to produce a sharp stable picture. The micoprocessor in the display has the capability to adjust itself to the computer to which it is attached. If the picture is not satisfactory, the first step is to allow the unit to attempt to adjust itself to your computer.

The membrane keypad used for adjusting the display is below:

Keyboard Layout and Function



OSD (On Screen Display) Adjustments

There are four membrane buttons located on the rear of the unit. They will activiate the OSD and allow navigation to all user required adjustments.

OSD Membrane Layout

Main Menu	Sub Adjustment
Automatic Adjustment	Geometry & Color Balance
Horizontal Position	Horizontal Position
Vertical Position	Vertical Position
Horizontal Size	Horizontal Size
Phase	Phase
Brightness	Brightness
Contrast	Contrast
Color	Red, Green or Blue
OSD Language	English, Spanish, Dutch, French or Italian
Advanced	Factory Preset, OSD Horizontal Position, OSD Vertical Position
Cancel	

Adjustment Procedure

Adjustment Procedure	
Feature	**Adjustment Instructions**
Automatic Adjustment	Press **Menu** and the automatic adjustment will be the first item to appear on the OSD. Hit **Select** and then press the **Up/Down** button to navigate to Geometry. Press **Select** again and the display will automatically adjust the geometry. Press the **Up/Down** button to **Color Balance.** Hit **Select** again and the display will automatically preset the color balance to a factory preset value.
Horizontal Position	Press **Menu**. Press the **Up** button to the second icon which is **Horz. Pos** Hit **Select** and then press the **Up/Down** button to achieve the desired position. The desired value will be graphically illustrated along with a digital value. When complete press **Select** and you are ready to move to the next adjustment.
Vertical Position	Press **Menu**. Press the **Up** button to the third icon which is **Vertical Position.** Hit **Select** and then press the **Up/Down** button to achieve the desired position. The desired value will be graphically illustrated along with a digital value. When complete press **Select** and you are ready to move to the next adjustment.
Horizontal Size	Press **Menu**. Press the **Up** button to the fourth icon which is **Horizontal Size.** Hit **Select** and then press the **Up/Down** button to achieve the desired size. The desired value will be graphically illustrated along with a digital value. When complete press **Select** and you are ready to move to the next adjustment.
Phase	Press **Menu**. Press the **Up** button to the fifth icon which is **Phase.** Hit **Select** and then press the **Up/Down** button to achieve the desired phase. The phase should be adjusted until the screen image is sharp and there is no When complete press **Select** and you are ready to move to the next adjustment.
Brightness	Press **Menu**. Press the **Up** button to the sixth icon which is **Brightness.** Hit **Select** and then press the **Up/Down** button to achieve the desired brightness level. The desired value will be graphically illustrated along with a digital value. When complete press **Select** and you are ready to move to the next adjustment.
Contrast	Press **Menu**. Press the **Up** button to the seventh icon which is **Contrast.** Hit **Select** and then press the **Up/Down** button to achieve the desired contrast level. The desired value will be graphically illustrated along with a digital value. When complete press **Select** and you are ready to move to the next adjustment.

Adjustment Procedure Cont.		
Feature		**Adjustment**
Color		Color temperature adjustments allows the user to adjust for desired white balance. This can be achieved by adjusting the **Color Temperature** control or adjusting the individual **Red, Green or Blue** controls. Press **Menu**. Press the **Up** button to the eight icon which is **Color** Hit **Select** and then press the **Up/Down** button to select the **Color Temperature**. Hit **Select** again and adjust the **Up/Down** button and adjust to one of the desired six digital values. The six digital values are graphically illustrated. When complete press **Select** and you are ready to move to the next adjustment. If your require a unique white balance, you can adjust the individual colors to achieve this value by proceeding with the following adjustments.
	Red	Press **Menu**. Press the **Up** button to the eight icon which is **Color.** Hit **Select** and then press the **Up/Down** button to select **Red**. Hit **Select** again and adjust the red value which is graphically illustrated along with a digital value. When complete press **Select** and you are ready to move to the next adjustment.
	Blue	Press **Menu**. Press the **Up** button to the eight icon which is **Color.** Hit **Select** and then press the **Up/Down** button to select **Blue**. Hit **Select** again and adjust the blue value which is graphically illustrated along with a digital value. When complete press **Select** and you are ready to move to the next adjustment.
	Green	Press **Menu**. Press the **Up** button to the eight icon which is **Color.** Hit **Select** and then press the **Up/Down** button to select **Green**. Hit **Select** again and adjust the green value which is graphically illustrated along with a digital value. When complete press **Select** and you are ready to move to the next adjustment.
OSD Language		This function allows you to convert from English to the following languages: Espanol, Deutsch, Francais, Italiano. If you desire one of these languages, proceed to adjust as follows. Espanol will be used as an example.
Espanol		Press **Menu**. Press the **Up** button to the ninth icon which is **OSD Language.** Hit **Select** and then press the **Up/Down** button to select **Espanol**. Hit **Select** again and the display will convert all text to Espanol. When complete press **Select** and you are ready to move to the next adjustment

Adjustment Procedure Cont.	
Feature	**Adjustment Instructions**
Advanced	The advanced control allows for several advanced adjustments. • Factory Preset • Sharpness • OSD Horz. Pos • OSD Vert. Pos
Factory Preset	The Aydin display has a number of standard settings installed at the factory for your convenience. If you make a number of adjustments and then want to default to the standard settings, proceed as follows. Press **Menu**. Press the **Up** button to the ninth icon which is **Advanced.** Hit **Select** and then press the **Up/Down** button to select **Factory Preset**. Hit **Select** again and the display will default to all original factory adjustments. When complete press **Select** and you are ready to move to the next adjustment.
Sharpness	Press **Menu**. Press the **Up** button to the eight icon which is **Advanced.** Hit **Select** and then press the **Up/Down** button to select **Sharpness**. Hit **Select** again and adjust the sharpness value which is graphically illustrated along with a digital value. When complete press **Select** and you are ready to move to the next adjustment. If you desire to adjust the OSD display off center to another location, proceed to adjust the horizontal and vertical position as outlined.
OSD Horz. Pos	Press **Menu**. Press the **Up** button to the ninth icon which is **Advanced.** Hit **Select** and then press the **Up/Down** button to select **OSD Horz. Pos**. Hit **Select** again and adjust the horizontal position of the OSD to your desired location. When complete press **Select** and you are ready to move to the next adjustment.
OSD Vert. Pos.	Press **Menu**. Press the **Up** button to the ninth icon which is **Advanced.** Hit **Select** and then press the **Up/Down** button to select **OSD Vert Pos**. Hit **Select** again and adjust the vertical position of the OSD to your desired location. When complete press **Select** and you are ready to move to the next adjustment.
Cancel	This control allows the cancellation of any values previously entered. Press **Menu**. Press the **Up** button to **Cancel.** Hit **Select** and all entries will be canceled.

3 Touch Screen Set-up

Section

Introduction to Touch Screens

Touch screen interfaces have become the standard interface in the past 5 years. They are rugged, reliable, extremely flexible and easier than ever to implement! The universal acceptance of the Windows GUI (Graphical User Interface) along with the extensive use of a mouse interface has significantly accelerated the use of a touch interface. Think of your touch screen as if it were a mouse.

Touch Screens Provided

5 Wire Resistive	RS-232 or USB
Capacitive	RS-232 or USB
SAW	RS-232 or USB

Touch Screens and Special Drivers

Software drivers for touch screen systems are provided in the Aydin Displays, Inc. accessory kit. It is always good to download the latest drivers from the respective web sites.

Refer to the individual manufacturer's documentation or contact the manufacturer to obtain special drivers:

- 3M Touch

Additional drivers, manuals and instructions for touch systems can be found at:
www.3m.com/3mtouchsystems

- Touch International

Additional drivers, manuals and instructions for touch systems can be found at:
www.touchintl.com

- ELO Touch

Additional drivers, manuals and instructions for touch systems can be found at:
www.elotouch.com/support/dnld.asp

Follow the manufacturer's instructions for installing special drivers.

4 Section Mounting Instructions

Panel Mounting Procedure

1. Cut and drill the panel to the proper size (see panel cutout in *Appendix E*). Measurements are shown in inches.
2. If access to the side of monitor is not available following installation, attach the power and video cables to the side of the monitor at this time.
3. Install the monitor in the prepared cutout.
4. Install the washers and lock nuts.
5. Tighten all mounting nuts evenly to approximately a torque of 24 inch-pounds.

ATTENTION: Mounting nuts must be tightened to a torque of approximately 24 inch-pounds to provide panel seal and avoid potential damage. Aydin Displays, Inc. assumes no responsibility for water or chemical damage to the monitor or other equipment within the enclosure due to improper installation.

6. Attach the power, video and touch screen cables (if applicable) to the side of the monitor.

Rack Mounting Procedure

1. Position the monitor to the proper position in the rack.
2. Install the screws. Tighten all mounting screws evenly to approximately a torque of 23 inch-pounds.
3. Attach the power, video and touch screen cables (if applicable) to the side of the monitor.
4. If access to the side of the monitor is not available following the installation, attach the power and video cables to the side of the monitor at the same time

Section 5 Troubleshooting Tips

No picture	The signal cable should be properly connected to the display and computer. Try disconnecting the video cable from the display and connecting to another display if available to confirm the presence of proper video. Make sure the power is connected to the proper AC source. Make sure the resolution mode is supported by the display and check display settings of the PC. Confirm that the video cable is not defective.

Image persistence	Image persistence occurs when a ghost of an image remains on the screen after the screen image has been changed. Unlike a CRT monitor, an LCD monitor's image persistence is not permanent. To erase an image ghost, turn the monitor off for several hours. What happens is that after extended periods of operation the liquid crystals "set". To avoid this condition, install a screen saver program on the computer.

Picture quality & image stability	Check for proper video cable for proper grounding and shielding. Check the signal source for proper signal. Check for proper adjustment of the phase and frequency controls. Check for proper recommended signal timing.

Green LED not lit	Check for proper power and power connections.

Display image is not properly sized	Press the "**Select**" button to Auto Adjust the display. Adjust the Vertical and Horizontal size controls via the OSD (reference *OSD Adjustments*). Ensure that a supported mode is selected on the display card or system being used. Consult the display card or system manual for proper video.

Image will not adjust	Video timing outside of range. Use the on-screen menu to adjust the Clock Setting. Make sure timing is within VESA standard.

Slight distortion in text or graphics	Not working in native resolution.

Display is present but "bars" appear or roll across screen	Ground loop problem between computer and display. Interference from adjacent equipment.

Vertical shaded bars on screen image	Horizontal size is not properly adjusted. Adjust horizontal size.

Image is not stable	Monitor has incorrect or bad sync signals. Check for proper video cable installation. Replace suspected faulty cable. Check to ensure that the video source is within the display's operating range.

Section 6 Cleaning & Maintenance

Cleaning

Occasionally clean the display panel and cabinet with a soft cloth dampened (not soaked) with a mild (non-abrasive) glass cleaner. Keep turning a fresh side of the cloth toward the screen surface to avoid scratching it with accumulated grit.

NOTE: The solvent should be applied only to the cloth, **NOT** directly on the monitor screen.

Do not use paper products as they may scratch the surface. To minimize the risk of abrasion, allow the screen to air dry. Special care should be taken when cleaning a touch screen or polycarbonate shield that is installed over the screen. Abrasive and certain chemical cleaners can damage the surface.

Never use alcoholic or ammoniac cleaners to clean the polycarbonate shield or a touch screen.

Replacing a Line Cord

To avoid shock and fire hazards, the monitor's power cord should be replaced if the insulation becomes broken or if it develops a loose internal connection.

Other Maintenance

Qualified service personnel should perform all maintenance, except for the power cord replacement described above.

7 Appendices

Section

Appendix A – Video Pin Assignments

Pin assignments for the HD15 Video Connector

Pin 1	Red Video	Pin 9	No Connection
Pin 2	Green Video	Pin 10	Sync Ground
Pin 3	Blue Video	Pin 11	Not Used
Pin 4	Not Used	Pin 12	Bi-Directional Data
Pin 5	Return	Pin 13	Horizontal Sync
Pin 6	Red Video Ground	Pin 14	Vertical Sync
Pin 7	Green Video Ground	Pin 15	Data Clock (SCL)
Pin 8	Blue Video Ground		

Appendix B – RS-232 Pin Assignments

Pin assignment for the 9 Pin Optional Touch Screen Connector

Pin 1	DCD	Data Carrier Detect
Pin 2	RD (Rx)	Receive Data
Pin 3	SD (Tx)	Transmit Data
Pin 4	DTR	Data Terminal Ready
Pin 5	SG	Signal Ground
Pin 6	DSR	Data Set Ready
Pin 7	RTS	Request to Send
Pin 8	CTS	Clear to Send
Pin 9	NC	No Connection

Appendix C – NTSC/PAL and S-Video

S-Video

S-Video, originally known as "Y/C Separated Video", is one of the higher quality ways to transmit a television signal from a peripheral device (DVD player, PlayStation 2, etc.) to a television. The way S-Video works is that it separates the color information (Chrominance) from the brightness (Luminance). By doing this, it reduces things such as color bleeding and dot crawl and greatly increases the general clarity and sharpness of the picture. The reason for this is that televisions are designed to display separate **Luminance (Y)** and **Chrominance (C)** signals.

Composite Video

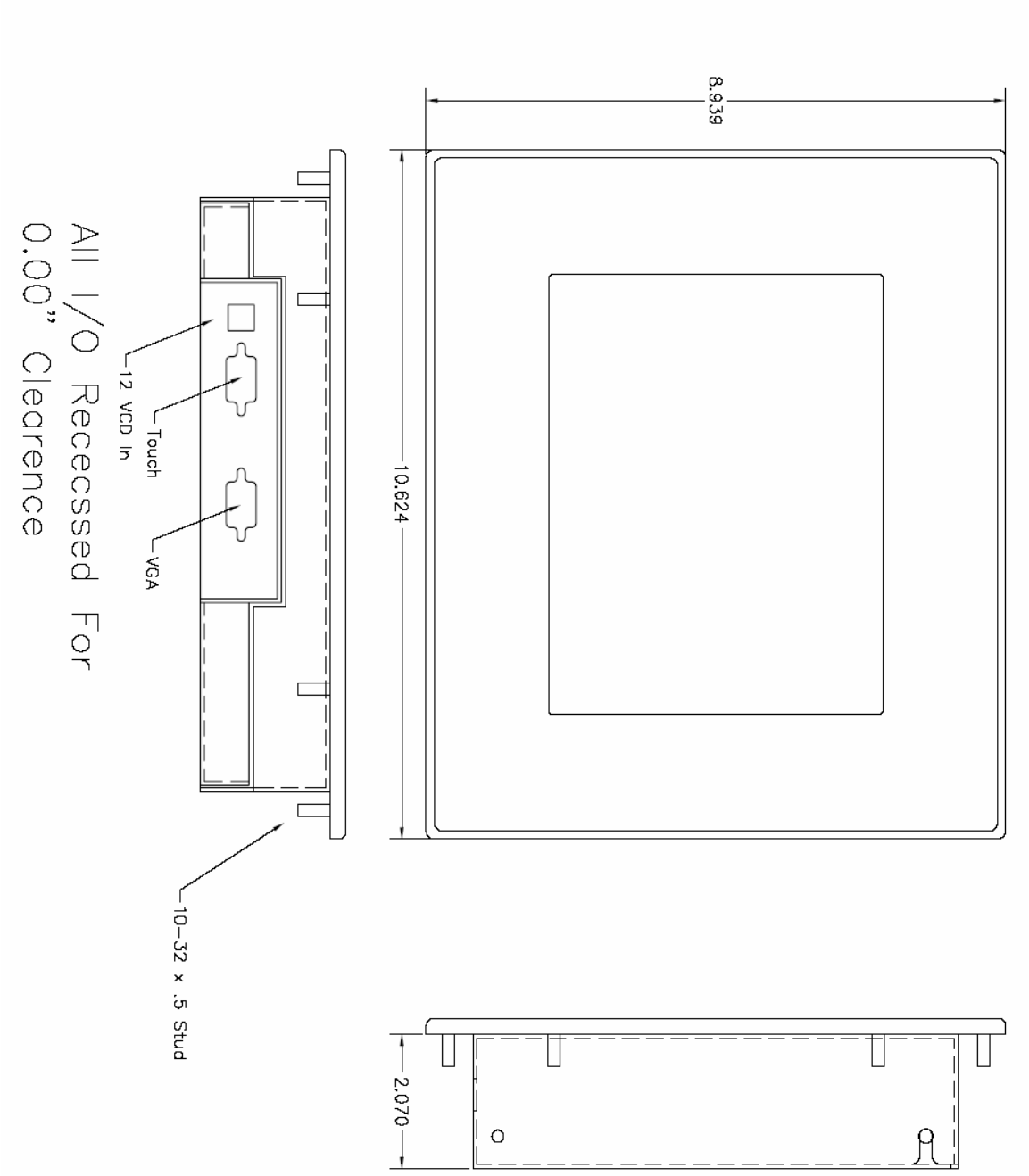
Composite Video (RCA or BNC) is the old "AV" standard connector. The common RCA connector is color-coded Yellow for Composite video. The term "yellow-plug video" is recommended to help cut down on confusion between "composite" and "component" (which sound alike).

Appendix D – CFP84 Specifications

Active Screen Area	6.73” x 5.05” (170.9 x 128.2mm)
Brightness	450 nits typical
Contrast	500:1
Lamp Life	50K
Max Screen Resolution	VGA (640 x 480)
Native Resolution (best picture)	VGA
Sync Type	Separate H and V (5 Wire) ONLY
View Angle L / R	55/55
View Angle Up / Dn	40/70
Installed Depth	Reference PDF’s Section 7
Chassis Construction	16 Ga SS
Bezel Construction	Al Machined .250” SS Machined (NEMA 4x)
Bezel OD	Reference PDF’s Section 7
Bezel Finish (aluminum)	Black Textured
Bezel Finish (stainless steel)	NEMA 4x
Auto Adjust	Yes
5 Wire Touch	Yes
Touch Interface	RS-232 or USB
Recessed Cable Exit	No
PC Video Interface	VGA (HD-15F) (female)
Colors	262,144
Operating Temperature	0° to 50° C
Storage Temperature	0° to 60° C
Storage Humidity	10% to 95% relative humidity non-condensing
NEMA Front End	4/12 and 4x
Input Voltage	115/220VAC
Input Power	30W Max

NOTE: Does not include cable exit.
Standard cable exit to the rear will add approximately 2” to the depth. With bottom exit cables, the cable hood extends down from the bottom edge of the display approximately 2”.

Appendix E – Mounting Dimensions
CFP84P1 Outline Dimensions



Appendix E – Mounting Dimensions
CFP84P1 Cutout Dimensions